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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,583	06/20/2001	Carol Lemlein	1527-US	3971

7590 09/09/2003
Legal Department
Teradyne, Inc.
321 Harrison Avenue
Boston, MA 02118

EXAMINER

YUFA, ALEKSANDR L

ART UNIT	PAPER NUMBER
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2133

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DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,583

Applicant(s)

LEMLEIN ET AL.

Examiner

Alex L. Yufa, Ph.D.

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in page 5, lines 28-34 applicant, referring to Fig. 4, discloses the operations of steps 102-108 which are not in compliance with Fig. 4 (e.g., in specification step 104 is a deskew data collection, but in Fig. 4 the step 104 is a deskew data optimization, etc.).

Appropriate correction is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4).

New corrected drawings are required in this application because:

a) the driver/comparator channels 48, described in specification, should be presented in Fig. 3 (in compliance with specification the driver/comparator channels are numbered as 48 /see page 5, line 18 /, that is not shown in Fig. 3);

b) the step 108, described in specification, should be presented in appropriate Figure (in compliance with specification there is a step 108 /see page 5, line 34 /, that is not shown in any of Fig. 1-5).

The corrected drawings are required in reply to the Office action.

Claim Objections

3. Claim 7 is objected to because of the following informalities: the abbreviations DUT and DUTs have to be replaced, for example, with "device-under-test".

Appropriate correction is required.

Claim Rejection

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 7-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification (and is not shown in the drawings) in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 includes limitation, such as: a programmable delay circuitry, which was not described in the specification.

Claims 7, 10 include limitation, such as: identifying, which was not described in the specification.

Claims 8, 9 depend from respective claim 7, hence inherit the rejection in claim 7.

The Examiner interprets claims 7-10 as being similar to claims 1-6.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (hereinafter: admitted prior art) in view of Lopez (US 45,111,208), Catiller (US 4,429,389) and Conner (US 5,794,175).

Referring to claim 1, an admitted prior art discloses "a channel module 22", (page 1, line 22) including "a channels 28" (page 2, line 3), and "a programmable delay circuitry comprising a deskew circuit 30, performing the identical functions" (page 2, line 4). The admitted prior art does not explicitly teach and point out to provide a plurality of channels, but does not suggest or mention to limit the quantity of channels by single channel. Lopez discloses the plural-channel system and teaches to provide a plurality

Art Unit: 2133

of channels ("plural-channel signal carrying system" (see column 2, lines 56, 57)).

Catiller teaches to provide a channel parallelism for testing Integrated Circuit (IC) memories having row and column drivers. "A parallel array of exclusive OR gates" (a plurality of exclusive OR gates /e.g. see column 12, lines 64, 65) are arranged so that the "output line of each OR gate" provides one address information bit to a bus which simultaneously carries parallel bits of address information. Conner discloses a plurality of "channel modules 46", including "a plurality of outputs" (see Fig. 3) and "data lines", and "a programmable delay circuit".

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art with the teaching of Lopez (US 45,111,208) and of Catiller (US 4,429,389) by using the plurality of channels, because one of ordinary skill in the art would simply use plurality principles for identically intended channels including a deskew circuit shared by more than one of the channels, performing the appropriate identical functions in order to minimize apparatus hardware architecture (configuration) and costs.

Claim 2 depends from respective claim 1, hence inherit the rejection in claim 1. Also, according to claim 2, it is well known and would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a channel module by an integrated circuit formed with more than one channel, because one of ordinary skill in the art would simply use well known integration principles applicable to the integrated circuit (IC) industry.

According to claim 3, Lopez discloses a calibration of plural-channel system teaches to determine the level of accuracy and to correct the inaccuracy (e.g., column 12, lines 19, 20). Lopez does not explicitly teach and point out to provide operations with the deskew data, but Conner describes that "circuitry making calibration and deskew adjustments are generally incorporated into the tester to ensure that the test signals are actually generated at the programmed times".

The admitted prior art provides steps of the deskew data collection and storage , and referring to the step of optimization, Lopez teaches that "in any of the foregoing plural-channel systems, optimum operation of the system is obtained when the design characteristics of the respective channels are maintained. A calibration process and equipment are utilized to provide optimum operation".

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art with the teaching of Lopez (US 45,111,208) and of Catiller (US 4,429,389) and Conner (US 5,794,175) to operate with the deskew data, because one of ordinary skill in the art would simply use the deskew data format for collecting, optimizing and storing such data, considering common principles applied to the calibration and test equipment and apparatus in compliance with the calibrating and testing device functional operability.

Claims 4-6 depend from respective claim 3, hence inherit the rejection in claim 3. Also, referring to claims 4-6, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the

Art Unit: 2133

averaging the deskew data and/or utilizing the individual deskew data, because one of ordinary skill in the art would simply use the averaging principles inherent for optimization processes (e.g. in compliance with the theory of optimality by Bellman), as well as, utilization of the individual data applicable to the optimization principles.

Referring to claims 7-10, claims 7-10 are similar to claims 1-6, and are rejected based on the same rationale thereof.

Conclusion

The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents

Application/Control Number: 09/885,583
Art Unit: 2133

Page 8

P.O. Box 1450
Alexandria, VA 22313-1450

on _____
(Date)

Typed or printed name of person signing this certificate:

Signature: _____

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (703) _____ - _____ on _____.
(Date)

Typed or printed name of person signing this certificate:

Signature: _____

Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning
facsimile transmissions and mailing, respectively.

8. The prior art made of record and not relied upon is considered pertinent to
applicant's disclosure:

US 5,566,188

US 5,477,139

US 4,724,440

US 5,682,472

Art Unit: 2133

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Yufa whose telephone number is 703-305-0715.

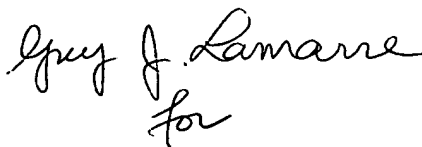
The examiner can normally be reached on M-F 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-2394.

Alex L. Yufa, Ph.D.
Examiner
Art Unit 2133

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for
Albert DeCady
Primary Examiner

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REFERENCES

US 5,794,175

US 5,111,208

US 4,429,389

US 5,566,188

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